

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 9

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID M. KERCHER

Appeal No. 2000-0184
Application No. 08/955,226

ON BRIEF

Before FRANKFORT, CRAWFORD, and BAHR, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 2, 5 through 8 and 10 through 13. In the examiner's answer (Paper No. 8, page 4), the examiner has withdrawn the 35 U.S.C. § 112, second paragraph, rejection of claims 5 through 8 and 10 through 13, which was the only rejection applied against those claims in the final rejection. Accordingly, we dismiss the appeal as

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to claims 5 through 8 and 10 through 13, leaving for our consideration in this appeal only the examiner's rejection of claims 1 and 2 under 35 U.S.C. § 103. Claims 14 and 15 stand allowed. Claims 3 through 13 have been indicated by the examiner as being allowable if rewritten in independent form.

Appellant's invention relates to gas turbine engines, and, more specifically, to turbine blade and vane cooling that involves the use of a plurality of specially configured diffusion fan holes (36) spaced apart along the spanwise axis of the turbine blade so as to provide for increased coverage of the outlets of the fan holes relative to the blade surface and increased film cooling along the span axis of the blade. A copy of claims 1 and 2 on appeal may be found in the Appendix to appellant's brief.

The prior art references of record relied upon by the examiner in rejecting claims 1 and 2 are:

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| Auxier et al. (Auxier '268) | 4,767,268 | Aug. 30, 1988 |
| Auxier '158 | 5,403,158 | Apr. 04, 1995 |

Claims 1 and 2 stand rejected under 35 U.S.C. § 103 as being unpatentable over Auxier '268 in view of Auxier '158.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejection and the conflicting viewpoints advanced by the examiner and appellant regarding the rejection,

we make reference to the final rejection (Paper No. 5, mailed April 9, 1999) and the examiner's answer (Paper No. 8, mailed August 2, 1999) for the reasoning in support of the rejection, and to appellant's brief (Paper No. 7, filed July 12, 1999) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determination that the examiner's rejection of claims 1 and 2 is not sustainable. Our reasoning in support of that determination follows.

In considering the examiner's rejection of claims 1 and 2 under 35 U.S.C. § 103 based on the collective teachings of Auxier '268 and Auxier '158, we note that Auxier '268 essentially represents the prior art as described by appellant on page 2 of the specification, i.e., wherein a plurality of cylindrical film cooling holes (58) are arranged spanwise of the turbine blade (10), as seen in Figure 1 of the patent, and are inclined at an acute span angle relative to the span axis of the blade. The examiner recognizes that the film cooling holes (58) of Auxier '268 are not diffusion holes as claimed by

appellant and do not have a fan configuration like that set forth in appellant's claims on appeal. To account for these differences, the examiner points to Figures 6 and 7 of Auxier '158 and particularly to the film holes (64) seen therein which appear to show a film hole that increases in flow area between an inlet at coolant passage (62) and an outlet (adjacent 70) and which show that the outlet of the hole is of a greater span height than the inlet. Armed with these showings in Auxier '158, the examiner has concluded that it would have been obvious to one of ordinary skill in the art at the time of appellant's invention to form the film holes (58) of Auxier '268 such that the holes increase in flow area between an inlet and an outlet thereof with the outlet greater in span height than the inlet, with the outlet and inlet being substantially equal in width, as taught in Auxier '158 for the purpose of providing enhanced film cooling.

In the answer (page 8), the examiner has expressed the view that since both of the applied patents mention film cooling that one of ordinary skill in the art, given these two patents, "would have readily recognized the applicability of the outlet near 70 of Auxier '158 to an airfoil with plural fan holes spaced along the span axis such as the fan holes 58 in Auxier '268." Having modified the film holes (58) of Auxier '268 in the manner noted above, the examiner then concludes (answer, page 15) that such modified holes "would inherently produce increased coverage by virtue of the increased film cooling coverage area at the outlet."

Given the disparate nature of the problems confronted by the two Auxier patents and the fact that Auxier '158 is specifically directed only to a combination of openings (64, 66) that relate to tip cooling and passive clearance control for the blade (60) therein, appellant urges (brief, pages 8-12) that the examiner has clearly resorted to impermissible hindsight to selectively pick and choose disparate features in Auxier '158 and then attempted to modify the spanwise located cylindrical film holes (58) of Auxier '268, distributed along the leading edge of the blade seen therein, to be diffusion holes having a fan configuration like that required in claims 1 and 2 on appeal. We agree. Like appellant, it is our view that the examiner's position on obviousness in this appeal represents a classic case of the examiner using impermissible hindsight in order to reconstruct appellant's claimed subject matter. In that regard, we share appellant's view that there is no motivation or suggestion in the applied Auxier references which would have reasonably led one of ordinary skill in the art to the examiner's proposed modification of the plurality of spanwise located cylindrical film holes (58) of Auxier '268 in the particular manner urged by the examiner.

In this regard, we note that, as our court of review indicated in In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992), it is impermissible to use the claimed invention as an instruction manual or "template" to piece together isolated disclosures and teachings of the prior art so that the claimed invention is rendered obvious. That same Court has also cautioned against focussing

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on the obviousness of the differences between the claimed invention and the prior art rather than on the invention as a whole as 35 U.S.C. 103 requires, as we believe the

examiner has done in the present case. See, e.g., Hybritech Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1384, 231 USPQ 81, 93 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987).

Since we have determined that the teachings and suggestions that would have been fairly derived from Auxier '268 and Auxier 158 would not have made the subject matter as a whole of claims 1 and 2 on appeal obvious to one of ordinary skill in the art at the time of appellant's invention, we must refuse to sustain the examiner's rejection of those claims under 35 U.S.C.

§ 103.

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In light of the foregoing, the decision of the examiner to reject appellant's claims 1 and 2 under 35 U.S.C. § 103 is reversed.

REVERSED

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| CHARLES E. FRANKFORT) | |
| Administrative Patent Judge) | |
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|) | BOARD OF PATENT |
| MURRIEL E. CRAWFORD) | APPEALS AND |
| Administrative Patent Judge) | INTERFERENCES |
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| JENNIFER D. BAHR) | |
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